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(54) PRODUCTION OF ANTIBACTERIAL FLEXIBLE POLYURETHANE FOAM

(57) Abstract:

PROBLEM TO BE SOLVED: To obtain an antibacterial flexible polyurethane foam having long-lasting high antibacterial properties by foaming a foam materials mixture contg. an inorg. antibacterial agent and a catalyst system comprising an org. amine alone or together with a tetravalent tin compd. or a specified amt. of a divalent tin compd.

SOLUTION: A zeolite A powder having an average particle size of 0.1-10 μ m is mixed with a mixed $\text{AgNO}_3\text{-Zn}(\text{NO}_3)_2$ soln. and water to give a slurry,

which is stirred at room temp. for about 6hr to subject it to ion exchange. Then, a zeolite phase is separated, washed with water to remove excess Ag ions and Zn ions, dried, and ground to give an inorg. antibacterial agent comprising a zeolite powder carrying 0.0006-4wt.% Ag ions and 0.04-14wt.% Zn ions. An antibacterial polyurethane foam is produced by mixing 100 pts.wt. polyol, 15-70 pts.wt. org. polyisocyanate, a blowing agent, 0.1-3 pts.wt. inorg. antibacterial agent, 0.1-10 pts.wt. org. amine (e.g. triethylenediamine), and 0.1-2 pts.wt. tetravalent tin compd. (e.g. dibutyltin dilaurate) under high-speed stirring and allowing the resultant mixture to foam and cure.

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